In the Claims

1-6. (canceled)

7. (previously presented) A method for targeted recombination of a nucleic acid molecule to produce changes in the genome of an intact human or animal comprising the steps of:

a) providing a single-stranded oligonucleotide having a sequence that forms a triple-stranded nucleic acid molecule by hybridizing with a target sequence in a double-stranded nucleic acid molecule with a Kd of less than or equal to 2×10^{-7}; and

b) providing a donor nucleic acid such that recombination of the donor nucleic acid into the target sequence is induced by triple helix formation between the single-stranded oligonucleotide and the double-stranded nucleic acid molecule,

wherein the single-stranded oligonucleotide is administered into an intact human or animal having a sequence that forms a triple-stranded nucleic acid molecule with the target sequence located in the genome of the intact human or animal, wherein the oligonucleotide binds to the target sequence with a Kd of less than or equal to 2×10^{-7}, and mutates the target sequence.

8. (cancelled)

9. (cancelled)

10. (cancelled)

11. (cancelled).

12. (cancelled)

13-14. (canceled)

15. (cancelled).

16. (currently amended) The method of claim ~~15~~ 7 wherein the oligonucleotide is between 10 and 60 nucleotides in length.

17. (currently amended) The method of claim ~~15~~ 7 wherein the oligonucleotide is dissolved in a physiologically acceptable carrier.

18. (currently amended) The method of claim ~~15~~ 7 wherein the oligonucleotide is recombinagenic.

19. (previously presented) The method of claim 18 wherein the oligonucleotide stimulates recombination of an exogenously supplied donor nucleic acid with the target sequence of the genome.

20. (previously presented) The method of claim 18 wherein the oligonucleotide stimulates recombination of a donor nucleic acid that is tethered to the oligonucleotide with the target sequence of the genome.

21. (currently amended) The method of claim ~~15~~ 7 wherein the target sequence is selected from the group consisting of a gene, an oncogene, a defective gene, a viral genome, and a portion of a viral genome.

22. (previously presented) The method of claim 21 wherein the gene is a defective -hemoglobin gene, cystic fibrosis gene, xeroderma pigmentosum gene, nucleotide excision repair pathway gene, or hemophilia gene.

23. (currently amended) The method of claim ~~15~~ 7 wherein the oligonucleotide is composed of homopurine or homopyrimidine nucleotides.

24. (currently amended) The method of claim ~~15~~ 7 wherein the oligonucleotide is composed of polypurine or polypyrimidine nucleotides.

25. (cancelled)